

Engineering Interpretations

Water Management

Interpretations of soils for water management are given as limitations for pond reservoir areas; embankments, dikes, and levees; excavated pond (aquifer-fed); and as restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

POND RESERVOIR AREA is the area that holds water behind a dam or embankment. Soils best suited to this use have a low seepage potential, which is determined by the permeability and depth to fractured or permeable bedrock, or other permeable material.

EMBANKMENTS, DIKES, AND LEVEES are raised structures of soil material constructed to impound water or protect land against overflow. They generally are less than 20 feet high and are constructed of "homogeneous" soil material (without a core zone) and compacted to medium density.

EXCAVATED PONDS (AQUIFER-FED) are bodies of water created by excavating a pit or dugout into a ground-water aquifer. Excluded are ponds which are fed by surface runoff or that have embankments that impound water 3 feet or more above the original surface.

DRAINAGE is the process of removing excess surface and subsurface water from agricultural land. Soil features are listed that affect grading, excavation, and stability of trench sides or ditch banks. Features are also listed which might affect productivity after drainage is installed. The availability of drainage outlets must also be considered.

IRRIGATION is the controlled application of water to supplement rainfall for supporting plant growth. Soil features are listed that affect design, layout, construction, management, or performance of an irrigation system.

TERRACES AND DIVERSIONS are embankments or a combination of an embankment and a channel constructed across a slope to control erosion by diverting or storing surface runoff instead of permitting it to flow uninterrupted down the slope. Soil features are listed that affect the construction of terraces and diversions and that may cause problems after construction.

GRASSED WATERWAYS are natural or constructed channels that generally are broad and shallow and are covered with erosion-resistant grasses. They are used to conduct surface water to outlets at a nonerosive velocity. Soil features are listed that affect the construction and maintenance of the waterway, and also that affect the growth of grass after construction.

This subsection includes:

- **(a) Water Management**

Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation.
See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
66000: Moniteau-----	Slight	Severe: wetness	Severe: slow refill	Limitation: flooding frost action	Limitation: erodes easily flooding wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
70006: Credlon-----	Moderate: seepage	Moderate: wetness	Severe: no water	Limitation: percs slowly	Limitation: percs slowly rooting depth wetness	Limitation: erodes easily rooting depth wetness	Limitation: erodes easily percs slowly rooting depth
70020: Blueye-----	Moderate: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: depth to rock slope deep to water	Limitation: percs slowly slope depth to rock droughty	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock droughty
70021: Moko-----	Severe: slope depth to rock	Severe: large stones thin layer	Severe: no water	Limitation: depth to rock slope	Limitation: large stones slope depth to rock droughty	Limitation: large stones slope depth to rock	Limitation: large stones slope depth to rock droughty
70022: Tonti-----	Moderate: seepage slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope	Limitation: slope wetness droughty	Limitation: erodes easily percs slowly rooting depth	Limitation: erodes easily rooting depth droughty
71250: Britwater-----	Moderate: seepage	Moderate: hard to pack piping	Severe: no water	Limitation: deep to water	Limitation: erodes easily	Limitation: erodes easily	Limitation: erodes easily
71251: Britwater-----	Moderate: seepage slope	Moderate: hard to pack piping	Severe: no water	Limitation: deep to water slope	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
73000: Pomme-----	Moderate: seepage slope	Moderate: hard to pack piping	Severe: no water	Limitation: deep to water slope	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
73007: Plato-----	Moderate: seepage	Moderate: hard to pack wetness	Severe: no water	Limitation: percs slowly frost action	Limitation: erodes easily wetness droughty	Limitation: erodes easily rooting depth wetness	Limitation: erodes easily rooting depth wetness
73010: Wilderness-----	Moderate: seepage slope	Moderate: wetness	Severe: no water	Limitation: percs slowly slope	Limitation: slope wetness droughty	Limitation: rooting depth wetness	Limitation: rooting depth droughty

Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
73013: Lowassie-----	Slight	Severe: ponding	Severe: no water	Limitation: percs slowly ponding frost action	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily ponding	Limitation: erodes easily percs slowly wetness
73014: Clarksville-----	Severe: seepage slope	Slight	Severe: no water	Limitation: slope deep to water	Limitation: slope droughty	Limitation: slope	Limitation: slope droughty
73015: Viraton-----	Moderate: seepage slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope	Limitation: wetness droughty	Limitation: erodes easily rooting depth wetness	Limitation: erodes easily rooting depth droughty
73016: Viraton-----	Moderate: seepage slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope	Limitation: slope wetness droughty	Limitation: erodes easily rooting depth wetness	Limitation: erodes easily rooting depth droughty
73017: Bendavis-----	Severe: slope	Severe: thin layer	Severe: no water	Limitation: slope depth to rock deep to water	Limitation: slope droughty	Limitation: large stones slope depth to rock	Limitation: large stones slope depth to rock droughty
Poynor-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: slope deep to water	Limitation: slope droughty	Limitation: large stones slope	Limitation: large stones slope droughty
73018: Clarksville-----	Severe: seepage slope	Slight	Severe: no water	Limitation: slope deep to water	Limitation: slope droughty	Limitation: slope	Limitation: slope droughty
73019: Poynor-----	Moderate: seepage slope	Severe: hard to pack	Severe: no water	Limitation: slope deep to water	Limitation: slope droughty	Favorable	Limitation: droughty
73020, 73021: Poynor-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: slope deep to water	Limitation: slope droughty	Limitation: slope	Limitation: slope droughty
73022: Alred-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope deep to water	Limitation: slope droughty	Limitation: percs slowly slope	Limitation: slope droughty
Bardley-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope depth to rock deep to water	Limitation: slope depth to rock droughty	Limitation: slope depth to rock	Limitation: slope depth to rock droughty

Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
73023: Mano-----	Moderate: slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope	Limitation: percs slowly slope droughty	Limitation: percs slowly wetness	Limitation: percs slowly droughty
Ocie-----	Moderate: depth to rock slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope	Limitation: percs slowly slope droughty	Limitation: percs slowly wetness	Limitation: percs slowly droughty
73024: Mano-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope	Limitation: percs slowly slope droughty	Limitation: percs slowly slope wetness	Limitation: percs slowly slope droughty
Ocie-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope	Limitation: percs slowly slope droughty	Limitation: percs slowly slope wetness	Limitation: percs slowly slope droughty
73025: Gatewood-----	Moderate: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope depth to rock	Limitation: percs slowly slope depth to rock droughty	Limitation: percs slowly wetness depth to rock	Limitation: percs slowly depth to rock droughty
Ocie-----	Moderate: depth to rock slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope	Limitation: percs slowly slope droughty	Limitation: percs slowly wetness	Limitation: percs slowly droughty
73026: Gatewood-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope depth to rock	Limitation: percs slowly slope depth to rock droughty	Limitation: percs slowly slope wetness	Limitation: percs slowly slope depth to rock droughty
Ocie-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope	Limitation: percs slowly slope droughty	Limitation: slope wetness depth to rock	Limitation: percs slowly slope droughty
73027: Gatewood-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope depth to rock	Limitation: percs slowly slope droughty	Limitation: slope wetness depth to rock	Limitation: percs slowly slope depth to rock droughty
Ocie-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope	Limitation: percs slowly slope droughty	Limitation: percs slowly slope wetness	Limitation: percs slowly slope droughty
73028: Rueter-----	Severe: seepage slope	Severe: seepage	Severe: no water	Limitation: slope deep to water	Limitation: slope droughty	Limitation: slope	Limitation: slope droughty

Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
73028: Bardley-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope depth to rock	Limitation: percs slowly slope droughty	Limitation: percs slowly slope depth to rock	Limitation: percs slowly slope depth to rock droughty
73029: Gasconade-----	Severe: slope depth to rock	Severe: thin layer	Severe: no water	Limitation: depth to rock slope	Limitation: slope depth to rock droughty	Limitation: large stones slope depth to rock	Limitation: large stones slope depth to rock droughty
Gatewood-----	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: percs slowly slope depth to rock	Limitation: percs slowly slope droughty	Limitation: percs slowly slope wetness depth to rock	Limitation: percs slowly slope depth to rock droughty
Rock outcrop.							
73030: Gasconade-----	Severe: slope depth to rock	Severe: large stones thin layer	Severe: no water	Limitation: slope depth to rock	Limitation: large stones slope depth to rock droughty	Limitation: large stones slope depth to rock	Limitation: large stones slope depth to rock droughty
73032: Gatewood-----	Severe: slope	Severe: hard to pack large stones	Severe: no water	Limitation: percs slowly slope depth to rock	Limitation: percs slowly slope droughty wetness	Limitation: percs slowly slope wetness depth to rock	Limitation: large stones percs slowly slope depth to rock droughty
73033: Gatewood-----	Severe: slope	Severe: hard to pack large stones	Severe: no water	Limitation: percs slowly slope depth to rock	Limitation: percs slowly slope wetness droughty	Limitation: percs slowly slope wetness depth to rock	Limitation: large stones percs slowly slope depth to rock droughty
73051: Winnipeg-----	Moderate: seepage	Moderate: piping	Severe: no water	Limitation: deep to water slope	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
74626: Tanglenook-----	Slight	Severe: hard to pack wetness	Severe: slow refill	Limitation: percs slowly frost action	Limitation: percs slowly wetness	Limitation: erodes easily percs slowly wetness	Limitation: erodes easily percs slowly wetness
74627: Hartville-----	Slight	Severe: hard to pack	Severe: no water	Limitation: percs slowly frost action	Limitation: percs slowly wetness	Limitation: erodes easily wetness	Limitation: erodes easily percs slowly

Water Management--Continued

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
75377: Racket-----	Severe: seepage	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: flooding	Favorable	Favorable
75379: Kaintuck-----	Severe: seepage	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: flooding	Favorable	Favorable
75380: Dapue-----	Moderate: seepage	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: erodes easily flooding	Limitation: erodes easily	Limitation: erodes easily
75381: Bearthicket-----	Moderate: seepage	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: erodes easily	Limitation: erodes easily	Limitation: erodes easily
75382, 75383: Cedargap-----	Moderate: seepage	Moderate: seepage	Severe: no water	Limitation: deep to water	Limitation: flooding droughty	Favorable	Limitation: droughty
99000. Pits, quarries							
99001. Water							
99002. Orthents, borrow area, clayey							